

REMARKS

The Examiner has rejected Claims 1-20 under 35 U.S.C. §102(e) as being anticipated by U.S. 6,434,230 to Gabriel.

Applicants respectfully traverse the Examiner's rejections. Gabriel fails to teach or suggest at the least the following italicized features of Claims 1 and 16:

1. A method for use in managing a call queue within a call center, said call queue for handling calls having a plurality of different call types that each have a corresponding service objective value, comprising the steps of:

receiving a new call from an exterior environment, said new call having a first call type;

ascertaining a first service objective value associated with said new call based on said first call type;

selecting a currently enqueued call in the call queue, the currently enqueued call having a second service objective value;

*determining a first quality factor assuming that the new call is enqueued after the currently enqueued call;*

*determining a second quality factor assuming that the new call is enqueued in place of the currently enqueued call, said first quality factor reflecting the first and second service objective values; and*

*comparing the first and second quality factors to determine a position within the call queue for the new call.*

16. A system for use in distributing incoming calls to a plurality of local agents in a call center, said system comprising:

a receiver for receiving incoming calls from an exterior environment;

a call queue unit for use in maintaining a queue of calls to be answered by the plurality of local agents, said queue having a plurality of successive queue positions including an initial queue position, said initial queue position for holding a call that is next in line to be answered by an agent in the plurality of local agents; and

a call positioning unit for positioning a new call received by said receiver within the queue, *said call positioning unit determining a position within the queue for the new call by determining a first quality factor assuming that the new call is enqueued in a first position in the queue and a second quality factor assuming that the new call is enqueued in a second, different position in the queue and comparing the relative values of the first and second quality factors.*

The present invention is directed generally to a system that dynamically positions newly received calls within one or more queues to be addressed by agents or other resources in a call center. Using quality factors, the system positions a new call within the queue. The quality factors are preferably based, at least in part, on a service level associated with the new call and an amount of time that calls already within the queue have been waiting to be answered. Because the system can take into account the amount of time that other calls have been waiting to determine the queue position of the new call, less important calls are generally not left waiting indefinitely when a continuous stream of more important calls is being received by the call center. Additionally, because service level objectives associated with the incoming calls can also be considered in the positioning decision, the system is capable of achieving service level target values to a relatively high degree of accuracy.

Gabriel is directed to resolution of contention over resources in an automatic call distribution or ACD system. When a call appears, rules engine 160 performs a match 230 between attributes 203 of the call and rules 211 to find a rule that applies to this type of call. Rules engine 160 then performs a match 240 between the selected rule 211 and attributes 222 of resources definitions 130 to find a set of one or more resources 221 that satisfies the selected rule 211. Rules engine 160 then places a token 250, representative of the selected rule 211 and identifying the subject call, in the queue of each resource 221 in the set. Tokens 250 are ordered in each queue by the priority of their corresponding rules 211 and *not* by quality factor values based on differing queue positions for the new call. Priorities change with time as determined by time function 214 of each rule 211.

Accordingly, the rejected claims are allowable over Gabriel.

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The dependent claims provide further bases for allowance. By way of example, Claims 3-8 are directed to the calculation and use of various ratios, each of which includes estimated total wait time in queue. Gabriel teaches away from this approach. At col. 5, lines 1-19, Gabriel discusses the estimation of the waiting time in queues where the order of calls in the queues changes dynamically according to the time function 214. The estimation is effected by use of a simulator that can simulate the appearances of calls and their consumption by resources, and performs the reordering in the queues according to time function 214. However, the "simulator does *not* simulate behavior that requires the estimated waiting time." (Col. 5, lines 9-10 (emphasis added).)

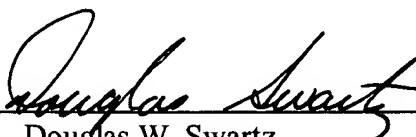
Applicant has added new Claims 21-34 which are also allowable over Gabriel.

Based upon the foregoing, Applicants believe that all pending claims are in condition for allowance and such disposition is respectfully requested. In the event that a telephone conversation would further prosecution and/or expedite allowance, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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